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**PROCUREMENT OF SCIENTIFIC EQUIPMENT  
AND MATERIALS FOR KIST**

489-H-054

**MONTHLY REPORT OF PROGRESS**

**NUMBER (1)**

**FOR**

**AUGUST 1969**

**PREPARED BY**

**KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY**



**FOR**

**REPUBLIC OF KOREA**

**AND**

**UNITED STATES**

**DEPARTMENT OF STATE**

**AGENCY FOR INTERNATIONAL DEVELOPMENT**

PN-HBK-593

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AND MATERIALS FOR K. I S T

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PREPARED BY

KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY

OVERSEAS PROCUREMENT MANAGER

YEH HWAN KOH

FOR

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AND

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DEPARTMENT OF STATE

AGENCY FOR INTERNATIONAL DEVELOPMENT

Submitted by



MOON TAIK SHIM

Vice-President for Research  
Korea Institute of Science  
and Technology

B

August 31, 1969

United States Agency for  
International Development to Korea

Attention Bruce Johnson  
Assistant Director for Development Loans,  
Engineering & Industry

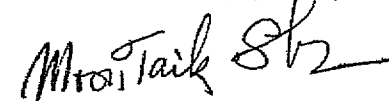
Subject. Procurement of Scientific  
Equipments and Materials for KIST  
AID Loan No. 489-H-054  
Monthly Progress Report No. 1

Gentlemen.

We are pleased to submit the first monthly progress  
report on the procurement of scientific equipment and materials  
for KIST.

This report covers procurement status of the first month  
in which awards were approved.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Moon Taik Shim", with a stylized flourish at the end.

MOON TAIK SHIM  
Vice-President for Research  
Korea Institute of Science  
and Technology

C

MONTHLY REPORT OF PROGRESS

NUMBER I

C O N T E N T S

Transmittal Letter

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## I INTRODUCTION

The Korea Institute of Science and Technology is the first institute that Korea has ever attempted to establish for research and development in order to increase the rate of development of Korean industry and the Korean economy

Science and Technology are today related not only to the progress and development of a nation's economy but also to the welfare of human beings of the world. It is evident that the advanced countries realize the important bearing science and technology has on every facet of modern life, so, they have made a great effort in developing science and technology

In the last several years, Korea has made great progress in economic growth and has enhanced the prestige of the country in the free world. However, science and technology in Korea are still not fully developed. Realizing the importance and urgent need for development of science and technology, President Park of the Republic of Korea discussed the establishment of an applied research institute with President Johnson during President Park's official visit to the United States in May, 1965.

As a result of the Presidents' joint communique on their meeting, the Korea Institute of Science and Technology (KIST) was founded in February, 1966 and started its primary activities in relation with its objectives. These prime objectives of KIST are to carry out scientific, technological and engineering-economics research, to conduct technical investigations and examinations, and to provide a suitable and attractive environment for Korean scientists and engineers.

## 1. CHRONOLOGY OF KIST'S MAJOR EVENTS

- May, 1965 - In a joint communique issued by the Presidents of the Republic of Korea and the United States, the establishment of an Institute was suggested
- July, 1965 - Dr Donald F Hornig, President Johnson's Special Assistant for Science and Technology, and his party visited Korea and subsequently proposed to President Johnson that technical assistance be given for the establishment of the Institute,
- Sept., 1965 - The United States Agency for International Development retained Battelle Memorial Institute to send a team to Korea to formulate basic plans for the establishment of the Institute,
- Dec., 1965 - Battelle completed plans for the establishment of the Institute and submitted its report to AID.
- Feb., 1966 - A project agreement was signed by the representatives of the Republic of Korea and the United States of America
- Feb., 1966 - Dr. Choi, Hyung Sup was named as a president of the Institute and the Board of Trustees was established,
- May, 1966 - The site was chosen for the Institute's permanent location, within the former boundaries of the Korean Forestry Experimentation Station, at Hawolkokdong, Sungbuk-ku, Seoul, Korea.

June, 1966 - A technical service contract was concluded by  
Dr Choi, Hyung Sup, President of the Institute,  
and Mr, Donald D. Evans, Representative of  
Battelle Memorial Institute.

Oct , 1966 - A ground breaking ceremony was held at the site  
of the new Institute.

Dec., 1966 - Special Assistance Act passed

Mar., 1967 - Amendment of Assistance Act for KIST was promul-  
gated (No 1917)

May, 1968 - The site was granted by the Government

## 2. CHARACTERISTICS

### BASIC CHARACTER

The Institute is an independent, not-for-profit organiza-  
tion with the basic purpose of developing science and techno-  
logy to support the economic and industrial development of the  
nation. Preservation of autonomy of research is considered to  
be of paramount importance in operating the Institute

### FINANCIAL SUPPORT

Financial support for the Institute is furnished by both  
the Governments of the Republic of Korea and the United States,  
under a long-term program of assistance which helps assure  
stability and the attainment of the Institute's objectives.  
It is intended, however, that the Institute will ultimately  
become financially self-sufficient through provision of its

services to industry and government agencies on a contract basis.

#### ASSISTANCE ACT

In order to assure the Institute of autonomous operation and the financial support from the Government, Assistance Act for KIST was promulgated in 1967 as a special legislation, which provides the Government contribution to KIST of the endowment fund and the construction cost, as well as the lease free of charge or grant of the national properties.

#### TAX EXEMPTION

In accordance with the Tax Reduction and Exemption Law, individuals or juridical persons donating money to the Institute or sponsoring research project at the Institute are entitled to an exemption from income tax or juridical person tax on the amount so donated or expended.

#### CONTRACT RESEARCH

The Institute is to carry out research entirely for the industry and government agencies on the basis of contractual agreements. In doing this, the Institute carefully preserves all data, information and conclusions exclusively for the use of sponsors, and makes no unauthorized disclosures.

#### RESEARCH STUDY

For an effective research study, laboratories at the Institute are established on project basis, and research



staffs are employed on a contract basis for a definite period or for a specific project

#### FACILITIES AND EQUIPMENT

Laboratory facilities and equipment are provided consistent with the needs of various research programs, and permit full utilization of the professional capabilities of the research staff

### 3. SCOPE OF RESEARCH PROGRAMS

The Institute is to carry out comprehensive laboratory investigations for applied and development research directly linked to Korean industry as well as objective-oriented basic research in the fields of sciences, engineering and economics, along with technical services including economic and engineering feasibility studies, assistance in the importation and adoption of world technology, and provision of technical information.

On the basis of the problem areas of Korean Industry, identified from the technical-economic surveys, and the availability of research staff, the initial fields of research at KIST have been selected as follows

#### MATERIALS SCIENCE & METALLURGICAL ENGINEERING

Physical Metallurgy	Foundry
Chemical Metallurgy	Corrosion
Powder Metallurgy	Semiconductor Materials
Metal Working	Refractories

## FOOD TECHNOLOGY

Foods in general	New food resources
Marine food products	By-product utilization
Fermented foods	Food microbiology
	Process development

## CHEMISTRY & CHEMICAL ENGINEERING

Catalysis & Surface Chemistry	Packaging
Rubber & plastics	Paint & printing ink
Coating	Dyes
Pulp & paper	Inorganic chemicals
Lubricant technology	Organic chemicals
Agricultural chemicals	Cellulose derivative synthesis
Chemical plant design	Textile finishing

## ELECTRONICS

Semiconductor devices	Instrumentation & reliability
Passive components	Processing techniques
Circuit and systems	Analysis of techniques

## MECHANICAL ENGINEERING

Energy & power systems	Plant facilities design
Equipment design & development	Mechanization planning
Product design & development	Applied mechanics
Refrigeration & air conditioning systems	Stress analysis

Manufacturing processes  
& quality control

#### BUILDING TECHNOLOGY

Building technology

Building Materials

#### ECONOMICS

Applied statistics

Quality control

Market research

Benefit cost analysis

Feasibility studies

Regional development

Optimum process

Transportation

#### ELECTRONIC DATA PROCESSING

Scientific data processing

Operations research

#### TECHNICAL INFORMATION

Information analysis

Dissemination of technical  
information

#### CHEMICAL ANALYSIS

#### MATERIAL TESTING

#### FABRICATION

Research equipment design  
& fabrication

Demonstration fabrication  
machines & tools

#### 4 RESEARCH STAFF RECRUITMENT

In order to recruit devoted research staff from home and abroad, the Institute offers appropriate environment and

modern facilities for research, autonomy of research, and stability as well as reasonable salaries

A total of 47 competent scientists and engineers either joined the Institute so far or signed employment contracts to join by 1970. In early 1970, the Institute will have a total population of 500, including administrative and technical staffs

### RESEARCH STAFF

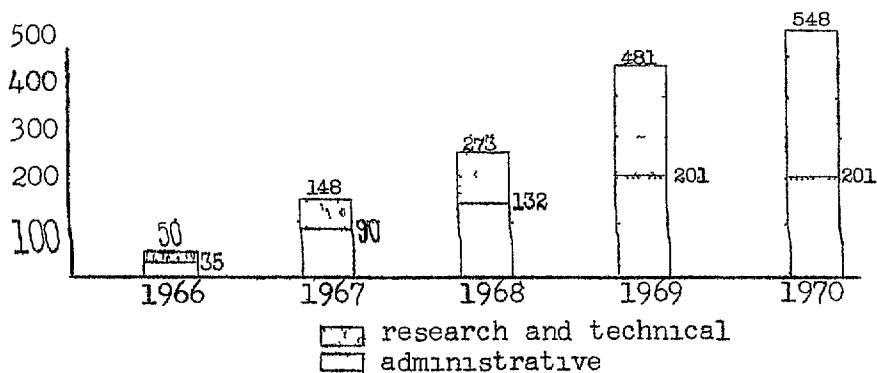
As of Aug. 31, 1969

	Employed	Prospective	Total	%
Home	19	-	19	41 %
Overseas	20	8	28	59 %
Total	39	8	47	100 %

--will join KIST by 1970

By academic degree • Ph D -31, M.S -9  
M.B.A.-1, B.S.-7, Total -47.

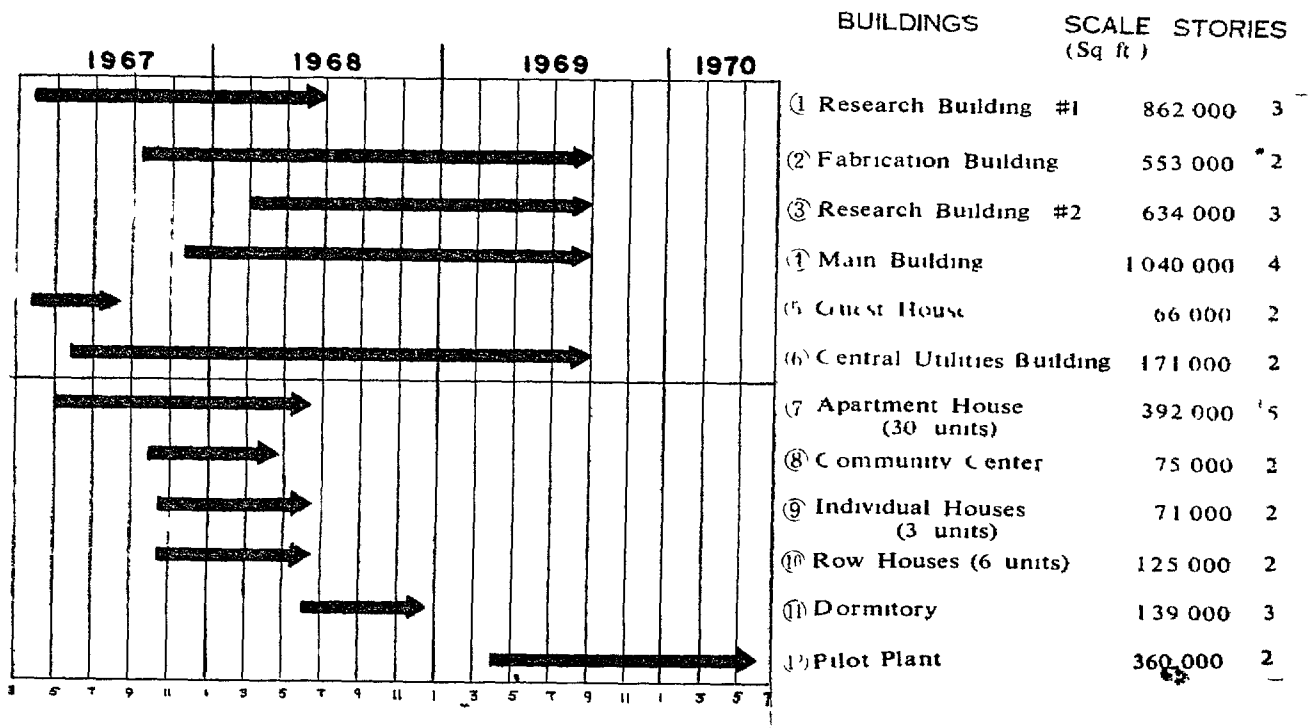
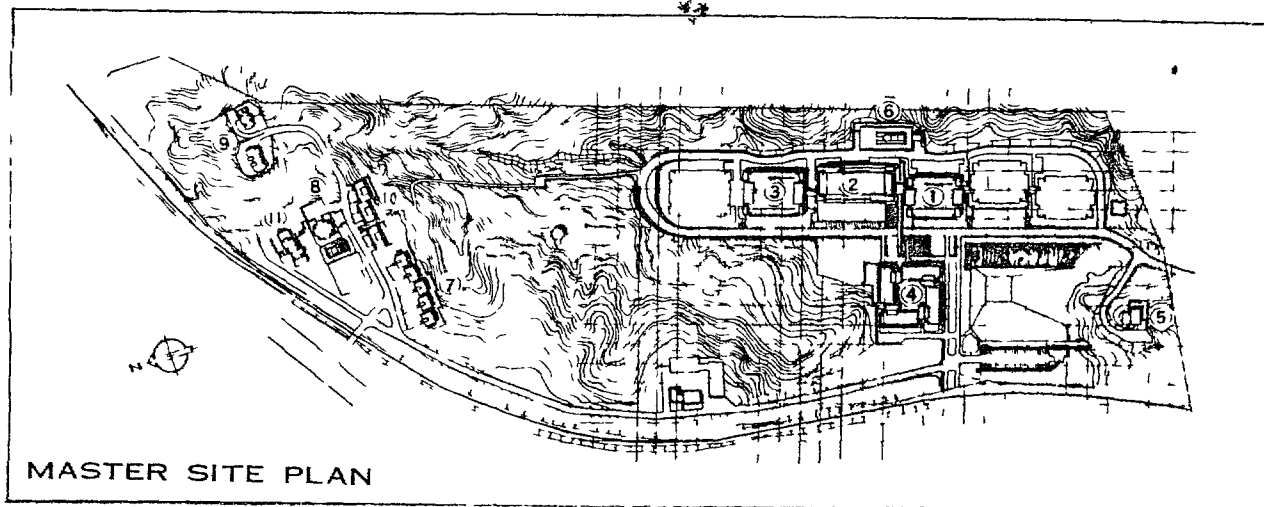
### STAFF GROWTH



To stimulate and accelerate research activities through exchange of knowledge with advanced nations, the Institute adopted various programs,

- ☐ To sponsor international seminars or symposia at least once a year,
- ☐ To authorize sabbatical overseas tour in every three years for principal investigators to refresh knowledge;
- ☐ To utilize post-doctoral fellowship program to attract Korean scientists abroad.
- ☐ To invite foreign scientists and engineers for short-term visit.

# CONSTRUCTION



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## II DESCRIPTION OF THE LOAN

### Preparation of the Approved List of Equipment and the Procedure For Purchase Under the Loan

In the original plan for the Institute, \$3 million was allotted for the purchase of laboratory equipment. Of this, \$1 million was provided under the grant and the remaining \$2 million were to be provided under either a grant or a loan.

A list of equipment totaling \$3 million was prepared in 1967 and 1968 by KIST with assistance from counterpart research divisions at Battelle Memorial Institute. The choice of equipment was based on eighteen projected laboratories plus the library and storeroom items. The highest priority items were purchased under the grant which reduced the list to \$2 million which would be purchased under the loan. This list of equipment was agreed to by KIST, USAID/K and BMI in 1968.

When actual purchasing under the loan began in about April, 1969, it became apparent that some revisions to this list had become necessary. These revisions resulted from the need for additional laboratories as shown by increased knowledge of the research and development needs in markets in Korea. This increased knowledge also showed the need for some changes in the type of equipment needed for the research to be done. Additionally, in some cases, heads of laboratories began work at KIST and in some cases had suggestions as to equipment needed for their laboratories. The original list, of course, had been made up before many of the laboratory heads were actually at KIST.

The laboratories originally planned in 1967 and 1968 included•

- |                          |                           |
|--------------------------|---------------------------|
| 1 Chemical Analysis      | 10. Physical Metallurgy I |
| 2 Corrosion              | 11 Physical Metallurgy II |
| 3 Lubricant              | 12 Minerals               |
| 4 Polymer Research I     | 13. Foundry               |
| 5. Solid State Chemistry | 14. Metal Working         |
| 6 Solid State Physics    | 15. Food Technology       |
| 7. Semiconductor         | 16 Material Testing       |
| 8 Passive Component      | 17 Mechanical Engineering |
| 9. Reliability Testing   | 18. Fabrication Equipment |

At present the operating laboratories are as follows

- |  |                                 |
|--|---------------------------------|
| 1. Chemical Analysis                   | 16. Industrial Equipment Engr.  |
| 2 Corrosion                            | 17. Shipbuilding & Ocean Engr.  |
| 3 Lubricant Technology                 | 18. Metal Working II            |
| 4 Polymer Chemistry                    | 19. Technical Economics Group   |
| 5 Solid State Chemistry                | 20. Control & Instrumentation   |
| 6 Solid State Physics                  | 21. Packaging                   |
| 7. Physical Metallurgy I               | 22. City and Regional Group     |
| 8 Physical Metallurgy II               | 23. Liquid State Chemistry      |
| 9 Metal Working I                      | 24 Animal Feed Stuffs           |
| 10. Food Resources                     | 25 Thermo-Hydraulic             |
| 11 Material Testing                    | 26 Organic Synthesis            |
| 12 Chemical Metallurgy                 | 27. Technical Information Dept. |
| 13. Electronics Devices                | 28. Electronic Data Processing  |
| 14. Marine Products                    | 29. Machine Shop                |
| 15 Agricultural Chemicals<br>Synthesis |                                 |



Because of these changes, the following procedure was agreed to by USAID/K. Requisitions would be prepared by KIST and if the items were on the \$2 million list, BMI/K would certify that in their judgment the items still met the original objectives and should be purchased. These requisitions could go directly to OSROK with copies to USAID/K and BMI/K. Where new items were to be requisitioned, it was agreed the BMI/K would consider the items and recommend their purchase as exceptions to USAID/K where in their judgment, the items were needed. This justification statement generally included a description of the item, its use and why it was recommended for purchase. Upon USAID/K's approval, the requisition was sent to OSROK. In many cases, the justification by BMI/K could be made directly but in some cases, assistance was requested from BMI/C.

A somewhat simplified procedure was adopted for those new items under \$1,000 in that item-by-item justification was not needed. Rather BMI/K in those cases, if it felt the purchase justifiable, made a blanket justification of the items under \$1,000 as being in their judgment necessary.

After OSROK receives the requisitions, they solicit and obtain bids. They then make a preliminary analysis of the bids and recommend a supplier for each item. The bids then are sent to KIST for their review and if their findings agree with those of OSROK, purchasing can proceed. If, however, KIST disagrees with OSROK as to the chosen supplier, KIST and OSROK meet to try to resolve the problem. If agreement cannot be reached then BMI/K is called in as an arbiter.

### III THE CHRONOLOGY OF PURCHASING UNDER THE LOAN

#### 1. LIST OF REQUISITIONS SENT TO OSROK

Req No.	Commodity	Amount
LIBRARY BOOKS	Books	80,000.00
KIST - 001	Hollow Spindle Lathe and Others	248,770 00
KIST - 002	Open Back Inclinalable Press and Others	48,000 00
KIST - 003	Transformer and Others	34,000 00
KIST - 004	Atomic Absorption Spectrophotometer and Others	25,400 00
KIST - 005	Stirring Hot-Plate and Others	6,200 00
KIST - 006	Welder A-C/DC and Others	33,400 00
KIST - 007	Reference and Others	29,500 00
KIST - 008	Glass Tubing and Others	9,400 00
KIST - 009	Microfilmer and Others	25,000.00
KIST - 010	Liquid Nitrogen Generator and Others	16,000.00
KIST - 011	Viscometer Bath and Others	28,300 00 23,000 00
KIST - 012	Shaker and Others	6,000 00 1,800 00
KIST - 014	Scientific Apparatus and Others	11,500 00
KIST - 015	Conlter Counter and Others	1,800.00 7,000.00
KIST - 016	Mixer and Others	2,000 00
KIST - 017	Sadtler Standard	18,000.00
KIST - 018	Pyrometer Controller and Others	6,700.00
KIST - 019	Fraction Collector and Others	14,100.00
KIST - 020	Electrobalance and Others	14,100.00

Req No	Commodity	Amount
KIST - 021	Temperature Tester & Others	36,900 00
KIST - 022	Recorder-Controller & Others	18,000.00
KIST - 023	Diffusion Furnace System and Others	15,800 00
KIST - 024	Gravimetric Spectrophotometer and Others	24,000 00
KIST - 025	Packless Autoclave and Others	15,700 00
KIST - 026	Oven Bockel and Others	15,850 00
KIST - 027	Thermocouple Wires and Others	29,000 00
KIST - 029	Air Pump and Others	7,950 00
KIST - 030	Autoclave and Others	21,680.00
KIST - 031	Decade Resister and Others	4,700 00
KIST - 032	Powerstat and Others	6,000.00
KIST - 033	Foundry Sand Tester and Others	71,000 00
KIST - 035	Cork Screw and Others	12,600 00 500 00 900 00
KIST - 037	Grinding Media, Burundum and Others	4,000.00
KIST - 039	Air Pump and Others	4,500 00
KIST - 040	R. F. Unit and Others	21,700 00
KIST - 043	Impedance Bridge and Others	18,300 00
KIST - 044	Joint Condenser and Others	1,700 00 430 00
KIST - 045	Copper Strip Corrosion Test Bomb and Others	4,900 00
KIST - 047	Stirred Autoclave	6,900 00
KIST - 048	Mass Spectrometer and Others	39,400 00
KIST - 052	Drill Kit and Others	6,300 00
KIST - 053	Straight Turning Tool and Others	23,000 00

Req No	Commodity	Amount
KIST - 054	Refrigerator System and Others	7,200 00
KIST - 055	P-10 (90% Argon-10% Methane) & Others	1,100.00
KIST - 062	Drill, Electric and Others	22,180.00
	Total	<u>\$1,132,160.00</u>

#### IV STATUS OF OSROK ACTIVITIES

##### 1. INVITATION FOR BIDS ISSUED AS OF AUGUST 31, 1969

<u>I.F.B. No.</u>	<u>Opening Date</u>	<u>Req. Nos.</u>	<u>Estimated Amount</u>
1) AID/L-9022-P	May 8, 1969	KIST 001	\$248,770.00
2) AID/L-9038-P	June 3, 1969	KIST 002 004 005 006 008	\$122,400.00
3) AID/L-9047-P	June 17, 1969	KIST 007 012 027 033	\$137,300 00
4) AID/L-9093-P	July 29, 1969	KIST 017 024 032 035 003 010 011 014 015 020 022	\$215,700 00
5) AID/L-9122-P	Aug 29, 1969	KIST 018 030 009 019 031 039 043 044	\$ 97,110.00

<u>I.F.B. No</u>	<u>Opening Date</u>	<u>Req Nos</u>	<u>Estimated Amount</u>
6) AID/L-9148-P	Sept.24,1969	KIST 016 023 026 029 047 052 001	\$ 54,800.00      etc . Rebid Req from Inv. No AID/L- 9022-P & 9038-P
7) AID/L-9198-P	Oct 31,1969	KIST 025 045 048 053 062 007 027 033	\$105,180 00      - - - Rebid Reqs from Inv. No. AID/L- 9047-P
Total		.	<u>\$981,260 00</u>

## 2. BIDS RECEIVED

<u>I.F.B No</u>	<u>Opening Date</u>	<u>Req. Nos.</u>	<u>Estimated Amount</u>
1) AID/L-9022-P	May 8, 1969	KIST 001	\$248,770.00
2) AID/L-9038-P	June 3, 1969	KIST 002 004 005 006 008	\$122,400 00
3) AID/L-9047-P	June 17,1969	KIST 007 012 027 033	\$137,300.00

<u>I.F.B. No</u>	<u>Opening Date</u>	<u>Req Nos</u>	<u>Estimated Amount</u>
4) AID/L-9093-P	July 29,1969	KIST 017 024 032 035 003 010 011 014 015 020 022	\$215,700.00

Total	<u>\$724,170 00</u>
-------	---------------------

### 3 BID UNDER TECHNICAL REVIEW

AID/L-9093-P	July 29,1969	KIST 017 024 032 035 003 010 011 014 015 020 022	\$215,700 00
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### 4. CONTRACT STATUS

<u>Contract Date</u>	<u>I.F.B. No.</u>	<u>Req Nos</u>	<u>Contract Amount</u>
1. May 7, 1969	Nil (Negotiated Procurement)	Library	\$ 55,400 00
2. June 21,1969	AID/L-9022-P	KIST 001	\$115,717 48
3. July 8,1969	"	"	\$ 48,808.95

<u>Contract Date</u>	<u>I.F.B. No</u>	<u>Req Nos</u>	<u>Contract Amount</u>
4 July 23,1969	AID/L-9022-P	KIST 001	\$ 35,480 45
5. July 18,1969	AID/L-9038-P	KIST 002	\$101,516 67
		004	
		005	
		006	
		008	
6 July 31,1969	"	"	\$ 17,308 70
7 Aug 18,1969	AID/L-9047-P	KIST 007	\$ 53,234.48
		012	
		027	
		033	
	Total .	.. . ..	<u>\$427,466.73</u>



# 5 CONTENTS OF CONTRACTS

Contents of contracts are referred to in the attached tabulation

INV No AID/L-9022-P

KIST No 001

Item No	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
1	Hollow Spindle Lathe	1 ea					Price High, items being purchased by NY Procurement Officer
2	Lathe	1 ea	7	AID/L-KOS- 9206-P	21,840	7 months	
3	Radial Drill Press	1 ea	7	"	13,560	6 months	
4	Universal Milling Machine	1 set	2	AID/L-KOS- 9207-P	23,104	14 weeks	
5	Heavy Duty Indus- trial Shaper	1 set	9	AID/L-KOS- 9205-P	17,992	20 weeks	
6	Hack Saw	1 ea	7	AID/L-KOS- 9206-P	4,540	7 months	
7	Band Saw	1 set	1	AID/L-KOS- 9208-P	11,507	6 months	

Item No	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
8	Abrasive Cutting Machine	1 ea	3	AID/L-KOS-9209-P	1,230 63	3 months	Cancelled by author
9	Hydraulic Shop Press	1 ea					
10	Forming Machine	3 ea	3	AID/L-KOS-9209-P	1,264 32	3 months	
11	Universal Grinding Machine	1 ea	3	AID/L-KOS-9308-P	35,480 45	32 weeks	Rebid No Bid
12	Surface Grinder	1 set	9	AID/L-KOS-9283-P	36,316 14	22 weeks	
13	Internal Grinding Machine	1 ea					
14	Universal Cutter & Tool Grinder	1 ea	7	AID/L-KOS-9206-P	11,964	7 months	Rebid No Bid
15	Pedestal Grinder	1 ea					
16	Wood Working Lathe	1 set	9	AID/L-KOS-9205-P	729 55	10 weeks	
17	Glassworking Lathe	Various	4	AID/L-KOS-9284-P	12,492 81	4 months	

Item No	Commodity	Q'ty	Bid No	Cont. No.	Cont Amount CIF (\$)	Delivery	Remarks
18	Threading Machine	1 ea	7	AID/L-KOS -9206-P	1,965 65	4 months	Rebid Incomplete Bid  Rebid No Bid
19	Layont table	1 ea					
20	Degreaser	1 ea					
21	Radial Drill Press	1 set	9	AID/L-KOS -9205-P	517 63	10 weeks	
22	Jointer 8"	1 set	9	AID/L-KOS -9205-P	705 70	10 weeks	
23	Wood Planner	1 set	1	AID/L-KOS -9208-P	1,555 00	6 months	
24	Wood Scroll Saw	1 set	1	"	720 00	6 months	
25	Wood Working Shaper	1 set	1	"	871 00	6 months	
26	Wood Working Radial Saw, & Accessories	1 set	1	"	1,650 00	6 months	

INV. No AID/L-9038-P

1) ~~K~~ IST No 002

Item No	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
1	Inclinable Press	1 ea	11	KOS-9295-P	5,276 00	6 months	
2	Drill Grinder	1 ea	11	"	766 00	7 months	
3	Drill Grinder	1 ea	11	"	3,602 00	7 months	
4	Spot & Projection Welder	1 ea	11	"	7,770 00	5 months	
5	Pipe & Rod Bender	1 ea	14	KOS-9296-P	5,072 95	12 weeks	
6	Mechanical Shear	1 ea	12	KOS-9297-P	15,295 00	5 months	
7	Mechanical Press Brake	1 ea	2	KOS-9295-P	19,338 00	9 months	

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2) ~~K~~ IST No 004

8	Atomic Absorption Spectrophotometer		10	KOS-9340-P	17,308 70	4 weeks	
9	Parts for Spect- rophotometer	26 ea					Rebid Incomplete Bid

Item No	Commodity	Q'ty	Bid No	Cont No	Joint Amount CIF (\$)	Delivery	Remarks
10-13	National Bureau of Standard	Various	1	AID/L-KOS-9298-P	7,669 35	24 weeks	

3) KIST No 005

14	Hot Plate & Magnets	3 ea	7	KOS-9299-P	110 24	4 months	
15	Stirring Apparatus	1 ea	1	KOS-9298-P	59 45	24 weeks	
16	Heating Mantle	3 ea	1	"	78 00	24 weeks	
17	Burets	2 ea	9	KOS-9300-P	41 51	100 days	
18	Volumetric Flask	3 ea	9	"	14 43	100 days	
19	Power Statt	1 ea	3	KOS-9301-P	21.60	6 months	
20	Hydrogen Gas	6 Cylinder	3	KOS-9301-P	624 00	6 months	
21	Hydrogen Gas	5 "	3	"	656 00	6 months	
22	Nitrogen	6 "	3	"	426 00	6 months	
23	Nitrogen	5 "	3	"	645 00	6 months	

Item No	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
24	Regulator	2 ea	3	KOS-9301-P	121 00	6 months	
25	Oxygen Ultra	3cylinder	3	"	528 00	"	
26	Oxygen, Research	3 "	3	"	456 00	"	
27	Flowmeter Needle Valve	1 ea	3	"	81 00	"	
28	Flowmeter Tube	1 ea	3	"	30 50	"	
29	Cylinder Holder	3 ea	3	"	27 30	"	
30	Storage Cabinet	1 ea					Price high, being referred to NY Procurement Officer
31	Quartz (processing) Tubes	40 ea					Rebid No Bid
32	Quartz Taper Joint	10 set					"
33	Quartz Plates	20 ea					"
34	Graded Seal	13 ea					"

Item No	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
35	Alumina Tubes	39 ea	9	KOS-9300-P	870 57	100 days	
36	Tempil Sticks	32 ea	9	"	34 06	"	
37	Thermocouple Wire	160 ft & 2 ea					Rebid No Bid

4) KIST No 006

38	Welder A-C/DC	1 ea	1	KOS-9298-P	1,310 30	24 weeks	
39	Paint Spray Booth	1 ea	3	KOS-9301-P	4,927 50	6 months	
40	10" Ball Bearing Grinder						Price high, being referred to N Y Procurement Officer
41	Tool Grinder						"
42	Vapor Blaster						"
43	Arbor Saw						"
44	Punch, Duplicator	1 ea	11	KOS-9295-P	18,442 00	7 months	
45	Milling Machine						Price high being referred to N Y Procurement Office

5) KIST No 008

Item No	Commodity	Q'ty	Bid No	Cont. No	Cont Amount CIF (\$)	Delivery	Remarks
46	Glass Tubing (11-365)	67 case	9	KOS-9300-P	1,964 26	100 days	
47	Glass Tubing (11-366)	8 case	9	"	131 43	"	
48	Glass Tubing (11-367)	5 case	9	"	113 59	"	
49	Glass Rod	4 case	1	KOS-9298-P	132 30	24 weeks	
50	Stopcocks (14-560)	12 case	7	KOS-9299-P	434 20	4 months	
51	Stopcocks (14-597)	10 case	7	"	381 60	4 months	
52	Stopcocks (14-587)	12 case	1	KOS-9298-P	398 49	24 weeks	
53	Stopcocks (14-628B)	10 case	7	KOS-9299-P	387 56	4 months	
54	Stopcocks (14-628A)	10 case	7	"	268 00	"	



Item No	Commodity	Q'ty	Bld No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
55	Stopcocks (14-6290)	6 case	9	KOS-9300-P	137 36	100 days	
56	Stoppers	4 "	9	"	115 54	"	
57	Glass Joint (11-373-5)	65 "	9	"	1,086 38	"	
58	Glass Joint (11-373-10)	65 "	9	"	1,275 51	"	
59	Glass Joint (11-371-5)	10 "	9	"	187 29	"	
60	Glass Joint (11-371-10)	10 "	9	"	209 40	"	

INV No AID/L-9047-P

1) KIST No. 007

Item No	Commodity	Qty	Bid No	Cont. No	Cont Amount CIF (\$)	Delivery	Remarks
1	Reference Magnet and Others	3 ea					REBID No BID
2	Demagnetizer Indiana Model DM 11	1 ea	12	AID/L-KOS-9376-P	87 50	6 months	
3	Gold Solution	2 ea					Price high, being referred to N.Y. procurement officer
4	Heating Element	1 ea	5	KOST-9378-P	1,108.25	4 months	
5 thru 8	Buret Metrohm and Others	Various	"	"	1,925.43	"	
9 thru 13-1	Polishing Powder and Others	"	"	"	2,770 63	"	
14 thru 17	Illuminator and Others	15 ea	10	KOS-9379-P	463 92	"	
18 thru 55	Bakelite Mounting Powder and Others	Various					Cancel Incomplete Bid

Item No	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
56 thru 72	Pipettes and Others	Various	12	KOS-9376-P	3,428 00	6 months	Rebid Incomplete Bid  Rebid.No Bid
73 thru 93	Silicon Monoxide and Others	"					
94 thru 99	Kodak DK-50 Deve- loper and Others	"					
100 thru 107	AB Cut-off wheels and Others	"	8	KOS-9380-P	4,840.33	3 months	
108 thru 112	Glass Cutter and Others	15 ea	12	KOS-9376-P	157.50	6 months	

2) KIST No. 012

1 thru 21	Shaker and Others	Various	10	KOS-9379-P	5,107 67	4 months	
22 thru 22-8	Press Reaction Apparatus	9 ea	10	"	2,217.13	"	
23 thru 25	Extraction Appa- ratus and Others	Various	10	"	474 80	"	
26 thru 26-6	Warburg Apparatus	11 ea	10	"	2,179.75	"	

3) KIST No 027

Item No	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
1 thru 4	Thermocouple Wire and Others	Various					Price high, being refered to N Y Procu- rement Officer
5 thru 5-6	Refractory Fibers and Others	"					Rebid Incomple- te Bid
6 thru 13-2	Thermocouple In- sulating Tubings and Others	666 ea	5	KOS-9378-P	1,863 37	4 months	
14	Gases & Regula- tors	Various					Price high, being refered to N Y Procu- rement Officer
15 thru 15-45	Metal Powder Inventor	"					Rebid No Bid
16 thru 16-37	Laboratory Melt- ing Stocks	"					"
17	Laboratory Melt- ing Stocks, Cu Shots, 99 % and Others	1,110 lb					"

Item No	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
18	Laboratory Melting Stocks (Armco Sheared Iron and Others)	2,000 lb					Rebid No Bid
19	Laboratory Melting Stocks (Alwire & Others)	600 lb					"
20	Laboratory Melting Stocks (Mg Rods & Others)	560 lb					"
21	Laboratory Melting Stocks (Diamond pig iron)	10,000 lb					"
22	Laboratory Melting Stock (Cu sheared Anode)	500 lb					"
23	Oven Foundary Coke	20 ton					"
24 thru 25-9	Foundry Supply and Others	Various					Rebid Incomplete Bid

Item No	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
26	Carbotrar Cement and Others	1,400 lb					Rebid No Bid
27 thru 33	Thin Layer Chro- matography deve- loping Apparatus and Others	Various	10	KOS-9379-P	108 34	4 months	

4) KIST No 033

1 thru 3	Foundry Sand Tester and Others	8 ea 2 set 2 unit	6	KOS-9381-P	8,833 58	4 months	
4	Metal Marker	31 ea	12	KOS-9376-P	40 60	6 months	
5	Airblast Cabinet	1 ea	12	"	3,618 00	"	
6 thru 9	Adjustable Range Recorder and Others	Various	14	KOS-9382-P	7,190 20	11months	
10	Low Pressure Gauge	1 ea	12	KOS-9376-P	310 00	6 months	
11	Socket Set and Others	134 ea	12	"	473 00	"	

Item No	Commodity	Q'ty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
12	Flasks & Jackets and Others	5 set	6	KOS-9381-P	929.32	4 months	
13	Materials for Furnace and Others	10 ea	5	KOS-9378-P	223.66	4 months	
14	Materials for Gasfired and Others	Various					Price high, being referred to N.Y. Procurement Officer
15	Vacuum Induction Melting System	1 set					Cancel ' High Price
16	Eddy Current Instrument	1 set	12	KOS-9376-P	1,300.00	6 weeks	
17	Portable Sieving Instrument and Others	Various	9	KOS-9377-P	1,984.60	20 weeks	
18 thru 19	Foundry Tool and Others	8 ea					Rebid Incomplete Bid
20	Research Microscope and Accessories	1 unit					Cancelled by Author

Item No	Commodity	Qty	Bid No	Cont No	Cont Amount CIF (\$)	Delivery	Remarks
21 thru 22	Temperature Controller & Accessories	11 ea	5	KOS-9378-P	1,598 90	4 months	Rebid Incomplete Bid
23	Balance for Specific gravity determination	1 set & 6 ea					



6 COMPARISON OF ESTIMATED WITH BID COSTS

<u>I.F B No</u>	<u>Req Nos</u>	<u>Item Nos</u>	<u>Estimated Cost</u>	<u>Bid Cost</u>
1) AID/L-9022-P	001	2	17,000.00	21,840 00
		3	11,000 00	13,560 00
		4	24,000 00	23,104.00
		5	13,500 00	17,992 00
		6	8,500 00	4,540 00
		7	3,500 00	11,507 00
		8	800.00	1,230 63
		10	625 00	1,264.32
		11	38,000.00	35,480 45
		12	25,000 00	36,316 14
		14	12,500.00	11,964 00
		16	750 00	729.55
		17	6,795.00	12,492 81
		18	1,700 00	1,965 65
		21	1,450 00	517 63
		22	1,800 00	706 70
		23	1,600.00	1,555 00
		24	350 00	720 00
		25	600 00	871 00
		26	1,650 00	1,650 00
		Total	\$171,120 00	\$200,006 88
2) AID/L-9038-P	002	1	4,800 00	5,276.00
		2	500.00	766 00
		3	1,000.00	3,602.00

<u>I.F.B. No</u>	<u>Req Nos</u>	<u>Item Nos.</u>	<u>Estimated Cost</u>	<u>Bid Cost</u>
AID/L-9038-P	002	4	6,550.00	7,770.00
		5	5,500.00	5,072 95
		6	14,000.00	15,295 00
		7	16,000.00	19,338 00
	004	8	17,466 26	17,308 70
		10-13	7,347.15	7,669.35
	005	14	100.00	110 24
		15	50 00	59.45
		16	76 00	78 00
		17	45.00	41 51
		18	13.00	14 43
		19	24.00	21.60
		20	540.00	624 00
		21	525 00	656.00
		22	350.00	426 00
		23	525 00	645.00
		24	100.00	121 00
		25	432.00	528.00
		26	375.00	456 00
		27	67.00	81.00
		28	25 00	30 50
		29	22.50	27.30
		35	724.50	870 57
		36	68.00	34.06
	006	38	2,300.00	1,310.30
		39	3,000.00	4,927.50
		44	16,000.00	18,442 00

<u>I.F B. No</u>	<u>Req Nos</u>	<u>Item Nos</u>	<u>Estimated Cost</u>	<u>Bid Cost</u>
AID/L-9038-P	008	46	2,464 00	1,964.26
		47	163 26	131 43
		48	173 25	113.59
		49	157 51	132 30
		50	438.00	434 20
		51	372 50	381 60
		52	465 33	398 49
		53	430 76	387.56
		54	269.80	268.00
		55	145 02	137 36
		56	116 64	115 54
		57	1,079 60	1,086.38
		58	1,295.10	1,275.51
		59	189.60	187.29
		60	214 80	209.40
		Total	106,550 58	118,825 37
3) AID/L-9047-P	007	2	80.00	87 50
		4	810 00	1,108.25
		5-8	1,876.01	1,925 43
		9-13	4,948.42	2,770.63
		14-17	639 50	463.92
		56-72	1,645 00	3,428 00
		100-107	7,968 40	4,840.33
		108-112	104.44	157 50
	012	1-21	4,875.00	5,107.67
		22	2,495 22	2,217.13

<u>I F.B. No</u>	<u>Req No</u>	<u>Item Nos</u>	<u>Estimated Cost</u>	<u>Bid Cost</u>
AID/L-9047-P	012	23-25	271.21	474 80
		26	1,946.35	2,179 75
	027	6-13	1,947 48	1,863 37
		27-33	106.95	108 34
	033	1-3	6,925.00	8,833.58
		4	36 00	40 60
		5	3,000 00	3,618 00
		6-9	5,316.00	7,190.20
		10	270 00	310.00
		11	585.70	473 00
		12	770.00	929 32
		13	202 00	223 66
		14	1,700 00	1,300 00
		17	2,013 00	1,984 60
		21-22	1,789.80	1,598 90
		Total	\$52,321.48	\$53,234.48
		Grand Total	\$329,992 06	\$372,066 73
		Difference	..	\$42,074.67

## V PERSONNEL

People concerned with procurement activities under the loan are as follows.

Organization	Title	Name
OSROK	Chief of Machinery Section	Kyoo Sung Lee
	Sub-Chief of Machinery Section	Chul Mook Chin
	Handling Man	Choong Kyum Kim
KIST	Vice-President for Research	Moon Taik Shim
	Chief of Overseas Procurement Division	Yeh Hwan Koh
	Assistant	Young Soo Park
EMI/K	Advisor	R I. Leininger
	Assistant	R.S. Harris
USAID/K	Assistant Director for Development Loans, Engineering & Industry	Bruce Johnson
	Deputy Assistant Director for Engineering & Industry	Richard L. Goodrich
	Development Loan Officer	Robert Bell
	Deputy Supply Advisor	John McHugh